

Materials List for:

# Anatomically Realistic Neonatal Heart Model for Use in Neonatal Patient Simulators

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## Materials

Name	Company	Catalog Number	Comments
Ecoflex 5	Smooth-on		Silicon casting material
400ml Static mixers	Smooth-on		Mixing tubes
Manual dispensing gun	Smooth-on		Used for injection molding
5-56 PTFE spray	CRC		Release agent for the molds
Sodium-hydroxide	N/A		This was purchased as caustic soda at the hardware store, in dry, 99% pure form. As it is widely available, there is no company specified
VeroWhite	Stratasys		The hard material used in the print
TangoBlackPlus	Stratasys		The rubber material used in the print
Support Material	Stratasys		The standard support material used by stratasys
Magill Forceps	GIMA		Infant size. This is for removing the inner molds
Stratasys Connex 350	Stratasys		If this machine is not owned, another option is to have the parts printed through a third party printing firm such as 3D-hubs to get the parts printed and shipped.
Balco Powerblast (Water Jet)	Stratasys		
Euro 8-24 Set P (Air Compressor)	iSC	4007292	
Syringe with blunt needle	N/A		A 20ml syringe with a 0.5mm diameter blunt needle.
Mimics 17.0 software	Materialise		This software was used to segment the heart model from the MRI. There are several free MRI imaging software tools available such as InVesalius, or Osirix, although they may prove to provide less functionality.
Magics 9.0 software	Materialise		This was used to repair and smooth the .stl files generated by mimics. This smoothing can also be done in most other 3D modeling freeware.
Solidworks			Software used for editing the heart model. Most other freeware CAD software can be used to perform this stage of processing.